

REMARKS

This Amendment is filed in response to the non-final Office Action dated May 20, 2008, and is respectfully submitted to be fully responsive to the rejections raised therein. Accordingly, favorable reconsideration on the merits and allowance are respectfully submitted to be proper.

In the present Amendment, claim 7 has been amended to recite a range value for the tensile strength of the polyester multifilament. Support for this amendment can be found, e.g., in the present specification on page 25 at lines 28 to 29.

No new matter has been added. Entry of the Amendment is respectfully submitted to be proper. Upon entry of the Amendment, claims 7-12 will be all the claims pending in the application.

I. Response to Rejection Under 35 U.S.C. § 103(a)

Claims 7-12 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent 6,593,447 (“Yamamoto”) in view of U.S. Patent 4,254,018 (“Kowallik”), and in further view of U.S. 2003/0059612 (“Cho”).

Applicant traverses and respectfully submits that the rejection should be withdrawn in view of the amendments to the claims and further in view of the following arguments.

The present invention relates to a polyester multifilament yarn produced from a polyester resin having a good color tone, excellent formability, a high resistance to fluff-generation, and mechanical strength. The characteristic features of the presently claimed polyester multifilament yarn in the form of a woven or knitted fabric are described in detail below as Features (1)-(3).

Feature (1): The polyester multifilament yarn in the form of a woven or knitted fabric of the present invention, comprises, as a principal component, a polyethylene terephthalate polyester produced by polycondensing a terephthalate diester of ethylene glycol in the presence of a specific catalyst, as recited in amended claim 7.

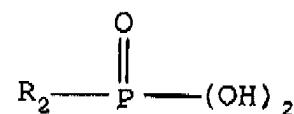
Feature (2): The multifilament yarn has a thickness of individual filaments of 0.3 to 2.0 dtex, a total thickness of the yarn of 90 dtex or less, and a silk factor (S.F.) of 22 or more, determined in accordance with the following equation (1):

$$(S.F.) = (\text{Tensile strength}) \times (\text{Ultimate elongation})^{1/2} \quad (1)$$

Feature (3) : The tensile strength of the polyester multifilament yarn is in the range of from 4.7 to 7 cN/dtex.

Applicant respectfully submits that the combination of Features (1), (2) and (3) enables the resultant polyester multifilament yarn woven or knitted fabric to exhibit good color tone (a high L* value and a low b* value) and a satisfactory silk factor value of 22 or more. Thus, the polyester multifilament yarn woven or knitted fabric is capable of exhibiting, when the yarn is converted to a woven or knitted fabric usable for sport clothes, a sufficient mechanical strength, a high resistance to fuzzing, a good hand, and a good color tone.

The presently claimed invention as recited in claim 7, is not rendered obvious over Yamamoto alone or in view of Kowallik and Cho. First, Yamamoto discloses a polyester polymer produced by using a specific polymerization catalyst. The specific polymerization catalyst of Yamamoto is a reaction product of a titanium tetraalkoxide or a reaction product of the titanium tetraalkoxide with an aromatic polycarboxylic acid or anhydride thereof with a phosphorus compound of the formula (III):



in which R₂ represents an unsubstituted or substituted C₆-C₂₀ aryl group or C₁-C₂₀ alkyl group.

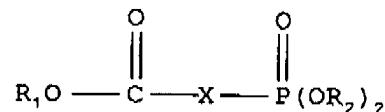
The phosphorous compound for Yamamoto catalyst is clearly distinguished from the phosphorous compound of the formula (III)



which is recited in the amended claim 7, based on structural differences. Additionally, Yamamoto does not describe, teach or suggest a catalyst consisting of a mixture of a titanium compound component with a phosphorus compound component. In view of the above, Yamamoto does not teach or suggest the recitations of claim 7, described as Feature (1) of the present invention.

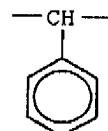
Furthermore, Yamamoto does not describe, teach or suggest the polyester multi-filament yarn in the form of a woven or knitted fabric and thus does not teach or suggest Features (2) and (3) listed above, which is also recited in present claim 7.

Kowallik does not cure the deficiencies of Yamamoto, because Kowallik discloses a carbo-phosphorate compound of the formula;



in which formula, R₁ and R₂ respectively and independently from each other represent an alkyl group and X represents:

—CH₂— or



The carbo-phosphorite compound is used as a heat stabilizing agent but not as a component of a polymerization catalyst for the production of a polyester and therefore cannot teach or suggest the catalyst comprising components (B) and (A) used to make the polyethylene terephthalate polymer produced by polycondensing terephthalate diester of ethylene glycol as recited in claim 7. In view of Examples 1 to 14 of Kowallik, the catalyst used in the preparation of the polyester in Kowallik is a mixture of, for example, Mn(Ac)₂ · 4H₂O with Zn (Ac)₂ · 2H₂O, SO₂O₃ and GeO₂. These mixtures do not contain a titanium compound and therefore cannot contain component (A) in the presently claimed catalyst. Thus, Kowallik does not teach or suggest Features (1)-(3) of the present invention, which are recited in claim 7.

Furthermore, Kowallik does not teach the specific advantages of the present invention derived from the combination of Features (1), (2) and (3) of the present invention. Accordingly, Kowallik does not cure the deficiencies of Yamamoto.

Cho discloses, in Examples 1 to 7 and Comparative Examples 1 to 7, a drawn polyester multifilament yarn having at least a terracity of 7.3 g/d and a silk factor of 22 or more.

However, Cho does not describe, teach or suggest Feature (1) of the present invention. Additionally, in Examples 1 to 7 of Cho, the polyester polymer was produced by a solid-phase polymerization procedure using a catalyst consisting of antimony compound.

In sum, none of the cited references describe, teach or suggest Feature (1) of the present invention. Thus, no combination of the cited references with each other can teach or suggest the presently claimed invention, as recited in claim 7, which recites the features of Feature (1), which is indispensable. Accordingly, the cited references alone or in combination do not render the presently claimed invention obvious.

Claims 8-12 depend from claim 7, and are therefore patentable over Yamamoto in view of Kowallik and further in view of Cho for at least to reasons mentioned with respect to the patentability of claim 7.

II. Response to Double Patenting Rejection

Claims 7-12 were provisionally rejected on grounds of non-statutory obviousness-type double patenting as assertedly being unpatentable over claim 1 of co-pending Application No. 10/542,373 in view of Cho.

Furthermore, claims 7-12 were provisionally rejected on grounds of non-statutory obviousness-type double patenting as assertedly being unpatentable over claims 1-7 of co-pending Application No. 10/541,574 in view of Cho.

Applicant respectfully requests that these rejections be held in abeyance until allowable subject matter has been indicated in one of the applications.

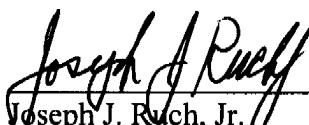
III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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